

# The sustainability of globalisation: Including the ‘social robustness criterion’



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## ABSTRACT

Many scholars, commentators and activists have been involved in often fierce debates about the normative desirability of economic globalisation. This issue remains highly contested to this day. Judgements as well as evidence on the positive and negative impacts of globalisation on the economy, society and ecology can be seen as statements on the sustainability of globalisation: is globalisation leading to a world in which people now and in the future can have a good quality of life? This paper explores the sustainability of globalisation by analysing its ‘social robustness’. It argues that in order to be considered sustainable, a policy, trend or process should be acceptable to a broad range of people in society. A text and discourse analysis, based on Cultural Theory, demonstrates the overall dominance of the ‘individualist’ perspective across various organisations of global policy significance delineating sustainable futures within three core themes of global governance: climate change, the economy and health. This analysis contributes towards a more inclusive discussion on global issues that matter in the context of a sustainable future for all. A more socially robust form of globalisation is possible, but only if marginalized perspectives are included in the policy debates and thereby allowed to contribute to solving humanity’s most pressing issues.

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## 1. Introduction: sustainable globalisation?

The sustainability of globalisation is a complex, contested and ambiguous issue that remains difficult to measure and quantify. [Rennen and Martens \(2003\)](#) define contemporary globalisation as “the intensification of cross-national interactions that promote the establishment of trans-national structures and the global integration of cultural, economic, ecological, political, technological and social processes on global, supra-national, national, regional and local levels”. Sustainable development is often seen as a process within the context of globalisation, encompassing three ‘pillars’: the economic, social and environmental/ ecological. If globalisation has positive impacts on each of the three dimensions of sustainable development then it could be considered sustainable, while if it has negative consequences it may be considered unsustainable. This three pillar approach can be thought of as one criterion for judging

the sustainability of globalisation ([Giddings et al., 2002](#)).

Several empirical studies have investigated the sustainability of globalisation with the three pillar approach ([Figge et al., 2017](#); [Martens and Raza, 2010](#); [Rudolph and Figge, 2017](#)). The results of these empirical studies suggest that the trends and processes towards sustainable globalisation are not uniform and the quantitative assessment of the sustainability of globalisation, even when composite indices are applied for analysis, is fraught with difficulties due to the complexities of the relationships involved, the lack of suitable data and methods, and the highly political nature of the subject matter ([Borghesi and Vercelli, 2003](#); [Martens et al., 2015](#); [Rudolph and Figge, 2017](#)). The resulting empirical uncertainty means it is possible for people to argue for conflicting views whilst backing those views up with sound evidence.

This paper argues that conflicting perspectives over the sustainability of globalisation will continue to exist and shape the future of the process, despite more empirical evidence and greater perceived certainty about the impacts of globalisation. As [Sarewitz \(2004\)](#) argues, sustainability controversies exist not because of a lack of knowledge necessarily but rather because of conflict over values and interests. Sustainability remains inherently subjective

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and political (Banerjee, 2003; Castro, 2004; Robinson, 2004). Thus, in any sustainability issue, and even more so for globalisation, people's perceptions of the positive or negative nature of observed trends will differ (Martens and Rotmans, 2002). Antiglobalists, for instance, will portray globalisation as the root of unsustainability, whereas others see increased global integration as the solution to sustainability challenges. Reformists propose to transform globalisation towards becoming more democratic and less based upon corporate economic interests. None of these perspectives is inherently right or wrong. Indeed it has been argued that our basic values and assumptions about the world and our idea about what a good world should look like affects the value we attribute to scientific knowledge itself (Bacchi, 2009; Kahan et al., 2007). For a more insightful and fruitful debate in the globalisation arena it is therefore imperative to gain a better understanding of the underlying cultural perspectives of relevant policy discourses.

This paper explores the sustainability of globalisation by analysing its 'social robustness'. It argues that in order to be considered sustainable and socially robust, a policy, trend or process should be acceptable to a broad range of people in society. As a suitable unit of analysis, this paper looks into trans-national practices and global social relations in non-territorial (globalized) units (Martens et al., 2015): policy discourses of globally relevant organisations. Social robustness implies that the respective (global) policy discourses should reflect the various cultural perspectives in a more or less balanced way. For this, the underlying values and assumptions that shape global policy in the domains of the global economy, climate change and human well-being are made explicit. The main research question is 'how balanced and therefore socially robust is the policy discourse on globalisation?' In order to answer this question a discourse analysis, based on Cultural Theory is put forward that analyses eleven reports published by significant organisations in the field of global governance which cover themes reflected by the three pillars of sustainability: economy (read: economic globalisation), climate change (read: ecological globalisation), and human well-being (read: social globalisation). The results of this analysis contribute towards a more inclusive discussion on global issues that matter for a sustainable future in a globalising world.

## 2. Theoretical background

Current empirical methods measuring the sustainability impact of globalisation do not take the diversity of perspectives into account. It has been argued that culture is the most visible manifestation of globalisation (Nederveen-Pieterse, 2004). Yet, apart from measuring the number of McDonalds restaurants, tourists and migrants (Dreher et al., 2008) no adequate solution has been put forward so far on how to integrate culture in the quantitative assessment of globalisation (Martens et al., 2015). Also, in public administration, political science and governance literature the deeper complex layers and patterns of culture such as values and worldviews that shape the social, cultural, political and even environmental context for and direction of the global system (Erez and Gati, 2004; Keesing, 1974; Schuerkens, 2003) remain largely overlooked. Evolutionary theory of socio-ecological resilience and adaptation (Anton, 1995; Gunderson and Holling, 2002) argues, that a diversity of cultural perspectives is crucial for a sustainable globalisation in two ways: first, societal support for strategies that strengthen globalisation processes and sustainability developments is determined by the level of cultural inclusiveness; second, the socio-cultural adaptive capacity to deal with global environmental, economic and societal changes and other anticipated and unanticipated events strongly depends on a rich diversity of values and strategies. Hence, this paper follows Figge (2017) to define "sustainable globalisation as a form of

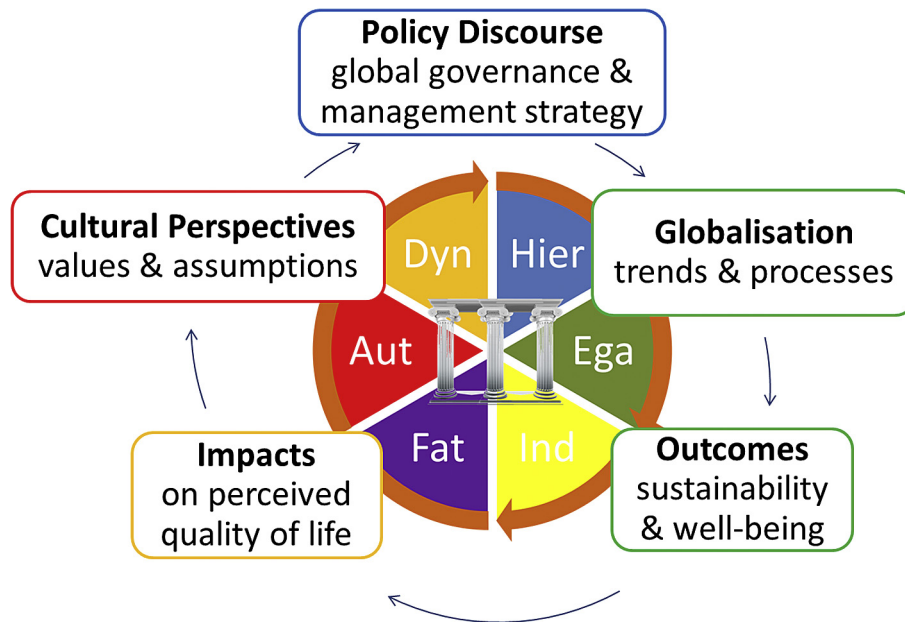
globalisation that is socially robust and contributes (positively) to the three pillars of sustainable development: the economic, social and ecological".

### 2.1. Social robustness

Social robustness is achieved if a "strategy and its consequences on the fulfilment of needs are considered acceptable from different present and future points of view (perspectives) (Offermans, 2012, p. 4)." It must be acceptable not only now, but also under different possible future conditions. Changing strategies too often - for example due to changing political regimes - is costly and less effective (Offermans, 2012). Indeed, it has been argued that policies or technological solutions to sustainability problems that do not enjoy widespread acceptance can lead to negative rather than positive sustainability impacts (Vallance et al., 2011). This can be seen as an instrumental conception of social robustness, where social acceptability is seen as important in so far as it affects the efficacy of a policy or solution to a sustainability problem. To illustrate this point, a simple cyclical model (Fig. 1) of how globalisation processes are shaped by and in return shape cultural values and assumptions is put forward. The point is that if globalisation is not acceptable to a wide spectrum of society (which is illustrated by a balanced representation of six different cultural perspectives in the inner circle) it will be opposed and ultimately abandoned or fall apart in fragmentation and will therefore not be able to 'sustain' itself over time.

The second way to conceive the social robustness criterion when applying it to globalisation trends and policy is to argue that social acceptability is also of intrinsic, not just instrumental, value to sustainability. In other words, even if a trend, process or policy can persist over time, it should not be considered truly sustainable unless it is acceptable to people since people's preferences and values matter intrinsically. It makes intuitive sense that people's preferences and their 'acceptance' of something should matter intrinsically, not just instrumentally. For example, it is possible to imagine a (globalising) world where autocratic elite is able to enforce environmental, economic and social sustainability policies onto a compliant and poorly informed citizenry. While it may be argued that a more free and open society is more innovative and better able to come up with effective solutions (Bossel, 1999) it cannot be assumed that an autocratic system would not be able to come up with the same or equivalent solutions under all circumstances. This society would live within its environmental and economic means, and re-distribute wealth in such a way that everyone could comfortably meet their material needs. Because of its total power, the autocratic elite have no need to consider social acceptability of its policies, and yet, in economic and environmental terms it has created a sustainable society. The Kingdom of Bhutan can be called upon as an example of such a society (Brooks, 2013). If social acceptability has only instrumental value to sustainability this would indeed be considered a sustainable society, but our intuition is that it is not.

Arguably the basis of this intuition can be found in various aspects of political philosophy. Ideas of social justice, human agency, democracy and participation can be found in many international declarations on sustainable development (Brundtland-Commission, 1987; UNGA, 2015; United Nations, 2012) and can all be seen to point towards the desirability of a more intrinsic value for social acceptability in sustainability. First, let us recall that under the Brundtland definition, sustainable development is all about meeting people's needs. Of course, this begs the question of how people's present and future needs should be defined and by whom (Banerjee, 2003). The idea of social justice can be seen as an important basis for defining people's needs (Sen, 1999).



**Fig. 1.** 'The cultural wheel of globalisation' integrates the three pillar criterion of sustainable development with the social robustness criterion based on a dynamic balance of cultural perspectives (**Hier**archist, **Ega**litarian, **Ind**ividualist, **Fat**alist, **Aut**onomous, dynamic). It shows how globalisation processes are shaped by and in return shape cultural values, assumptions and policy discourse which have specific outcomes and impacts on sustainability and quality of life.

Amartya Sen addresses social justice with his capabilities approach to defining basic needs, focusing on increasing people's freedom and agency to pursue a life that they value (Dodds, 1997; Sen, 1999). Agency is argued to be both an intrinsic part of human well-being, and a means to achieve other aspects of well-being. Through its effects on economic, environmental, and social-cultural systems, globalisation has the potential to impact peoples' ability to pursue a life that they value. Therefore, if policies that govern the process of globalisation and respective consequences are not widely acceptable then it can be seen to have a negative impact on people's ability to live a life that they (would) choose, since they are forced to pursue that life in systems that they may not perceive as fair, or worthwhile supporting. Of course this suggests a high possibility for conflict as people will have different definitions of fairness. Globalisation creates many new opportunities and risks by inter-connecting societies, economies and ecological systems across the globe (Martens and Raza, 2010; Scholte, 2005; Stiglitz, 2002). It seems like an important element of justice that people should be able to choose or debate whether to accept these new risks. Hence, this paper argues that including perspective diversity in global policy processes and decision-making is a number one priority in order to foster sustainable, transparent and legitimate decisions that shape the global socio-ecosystem. However, while the paper assesses the balance of worldviews, and diversity seems important, it remains open for discussion whether a balance of perspectives will lead to sustainable globalisation.

## 2.2. Cultural Theory as a heuristic framework for discourse analysis

In order to gain grounded insights into the underlying assumptions and values about globalisation, it is helpful to have a tested framework or typology that structures the diversity of existing worldviews and management styles into some archetypal general patterns. With billions of individual people on Earth, each with their own background and interests, the range of possible viewpoints on globalisation could seem overwhelming. Typologies

classify people into groups in order to spot patterns and gain understanding of their preferences and behaviour in a structured way (Offermans, 2012). The Cultural Theory (CT) typology, introduced in 1990 by Thompson, Ellis and Wildavsky (Thompson et al., 1990) provides a very useful framework for structuring and understanding a debate where there are clearly different interpretations of the nature of the trends as well as on the positive or negative nature of the impacts of those trends (Beumer and Martens, 2013; Pan et al., 2015). Offermans (2012) has compared the CT typology to six other typologies and found that it satisfies all of the criteria for a typology as well as incorporating the perspectives found in other typologies and is therefore a suitable tool for analysing perspectives in sustainability issues. Furthermore (Kahan et al., 2007), find that the perspectives embodied in the CT typology much more closely explain people's views and preferences on issues than any other individual characteristic such as political ideology or gender. Thus, CT seems to be a very useful and relevant typology for exploring sustainability issues. It has already been applied in the contexts of water management (Offermans, 2012; Valkering et al., 2009), climate change (Verweij et al., 2006), multi-criteria optimization (Tošić et al., 2015), life-cycle assessments (Blankendaal et al., 2014), transition management (Tukker and Butter, 2007), biodiversity conservation (Beumer and Martens, 2010, 2013), and environmental risks (Asselt et al., 1995).

An adapted version of CT by Beumer and Martens (Beumer and Martens, 2010, 2013), including the added perspective of the Dynamic Integrator, gives rise to six possible 'ways of life', each with a particular pattern of social relations and a distinctive set of 'cultural biases' (convictions about how the world is and how people are) that justify and reinforce each other: the Hierarchist, Egalitarian, Individualist, Fatalist, Autonomous and Dynamic Integrator<sup>1</sup> (see Table 1). These biases are built around a framework of stronger and

<sup>1</sup> The Dynamic Integrator does not result from Cultural Theory as originally developed by Douglas (1970) and Thompson et al. (1990). The perspective is derived from the work on clumsy solutions by Verweij et al. (2006) and has been put forward by Beumer (2014).

**Table 1**Key characteristics of the six cultural perspectives. Adapted from: [Beumer \(2014\)](#); [Offermans \(2012\)](#); [Thompson et al. \(1990\)](#); [Verweij et al. \(2006\)](#).

	Hierarchist	Egalitarian	Individualist	Fatalist	Autonomous	Dyn. Int.
Social relations	Hierarchically nested groups, power relations	Egalitarian-bounded groups	Ego-focussed networks, competitive relations	Involuntary exclusion, relations determined by others	Deliberate withdrawal, no involvement in coercive relations	Deliberate combination, pluralistic relations
Myth of nature	Perverse/ tolerant: Nature is robust within limits	Ephemeral: Nature is fragile	Resourceful: Nature is a resource without limits.	Capricious: No rhyme or reason	Benign: Nature is a pure, giving, living entity	Resilient: Nature is dynamic & complex system
Idea of Human Nature	Sinful but redeemable by good institutions	Good but corruptible by evil institutions, malleable	Self-seeking and very stable, unmalleable	Unpredictable - some are benevolent, more are hostile	Good but ignorant	Human nature is complex and dynamic
Directing Principle	Law/Legislation	Fairness/Justice	Needs/wants/preferences	Providence	Love, Dignity	Integrity
Activity	Policy	Civil Disobedience	Technological Innovation	Passivity	Self Realisation	Integrated Assessment
Knowledge Epistemology	Empiricism & Expertise	Art & Poetry & Lay/ Indigenous Knowledge	Experimentation & Exploration & Innovation	Agnostic/Opinion	Meditation & Prayer & Intuition & 'Verstehen'	Integrated Assessment
Sustainability model	Regulating people, planet and profit	Planet & People first	Profit is prerequisite for people and planet	Survival of the fittest	Planet first	Integrating people, planet and profit
Risk Approach	Risk averse - involuntary dangers imposed on people not acceptable.	Acceptable risks dealt with in community	Opportunity for personal reward	Avoid personal risk and cope with imposed risks	Acceptance of perceived risks for personal learning	Risk anticipating
Management attitude	Monitoring & controlling	Support & guidance	Leadership/ Innovation	Coping	Personal enlightenment	Co-evolution & engaging
Management style	Control	Prevention/Precaution	Engagement/Lobbying	Coping	Retreat	Adaptation
Management priority	Political and social stability	Protection of the weaker	Prosperity	Why bother?	Harmony	Dynamic Balance
Resource management strategy	Differential maintenance: Needs are prescribed. Collective resources can be increased by certified experts.	Sharing: Needs are managed by sharing and fair distribution.	The winner takes it all: Increase both needs and resources as far as entrepreneurial skill will allow.	Survival by coping: Cannot manage needs or resources therefore must simply cope.	Simplicity and abstemiousness: Resources are fixed so one person's gain is another person's loss.	Needs and resources determined on principles of integrated assessment.
Climate Change Risk perception	Medium, less urgent	High, urgent	Low	Low/ why does it matter?	High, urgent	Medium/ high
Climate change causes	Lack of global governance and planning	Profligate production and consumption	Sceptical towards scientific consensus	Inevitable human/ natural processes	Lack of oneness with nature	Mix of causes
Climate Change Management	International agreements, imposed by states on consumers and producers.	Strict precautionary principle. Rapid reduction in emissions. Decentralization of decision making.	Innovative business as usual. Perhaps internalisation of environmental costs.	Life goes on. Take advantage of windfalls in resources.	Individual voluntary simplicity.	Clumsy solutions.
Cost distribution	Common responsibility for costs, distributed across global society.	Costs should be borne by the richest. Strict polluter pays principle.	Costs distributed by free market	Costs of adaptation borne by those who need to adapt. It is just bad luck.	Low individual costs when going off the grid.	Collective agreement based on cooperative stakeholder dialogue.
Economy as a driver of/ response to Climate Change	Contributing driver, contributing response	Main driver of climate change, inappropriate response	Not a driver, main response	Globalisation and climate change seen as inevitable processes	Driver, retreat from global economic system & consumption as response	Contributor and part of possible response



weaker incorporation into social groups and stronger and weaker confinements to normative prescriptions of a given society. Cultural Theorists also link the different perspectives to particular social constructions of environmental and human nature, corresponding management strategies, and preferences on the issues of risk, growth, scarcity and apathy (Beumer, 2014; Offermans, 2012; Verweij et al., 2006). As these attributes are described elaborately by different authors already (Asselt et al., 1995; Beumer, 2014; Thompson et al., 1990; Verweij et al., 2006), this paper refrains from explaining the perspectives or strategies here in more detail, but provides an overview of the key characteristics in Table 1.

This paper claims that a certain level of balance between the different perspectives is required for a sustainable and well-functioning society, as defined by the robustness criterion. Marco Verweij and his colleagues (2006) support this claim by arguing:

*“[e]ach way of organizing and perceiving: (1) distils certain elements of experience and wisdom that are missed by the others; (2) provides a clear expression of the way in which a significant portion of the populace feels we should live with one another and with nature; and (3) needs all the others in order to be sustainable.”* (Verweij et al., 2006, p 821)

People will always argue about the ‘best’ strategies and they are usually based on their deeper beliefs about the world. Management strategies do what is most important for people: they uphold their own way of life (Thompson et al., 1990). This will often lead to conflict and disagreement (Verweij et al., 2006). Awareness of the value of plurality of perspective and its need for adaptive capacity is imperative to channel disagreements into constructive dialogues for a sustainable future (Hirst, 1997; Robinson, 2011; Verweij et al., 2006).

### 3. Methods: content analysis

Following Beumer (Beumer, 2014; Beumer and Martens, 2010, 2013) and others (De Kraker et al., 2014; Offermans and Cörvers, 2012), this paper conducts a CT based content analysis on eleven reports published by significant organisations in the field of global governance.

#### 3.1. Data choice

Documents by major global organisations deliver suitable text material for analysing the current balances of perspectives in globalisation. The reports have all been published within the last ten years (2007–2016), and they all represent a recent milestone, future vision, or outlook delineating a sustainable future. The focus in each report is on one of three broad, major and globally significant themes: the economy, climate change and human well-being (see Table 2). The three broad themes allow for a potential plurality of perspectives (social robustness) and a potential balance of environmental, economic, and social concerns (three pillars of sustainability). Thereby, this paper makes explicit the underlying

values and assumptions that shape global policy and globalisation processes and then makes a judgment on the social robustness of globalisation as represented in these documents. The next section elaborates on the three themes and the selection of reports which provide the text data for the analysis.

#### 3.1.1. Theme economy

Economy and globalisation are historically intertwined terms. The economy is often defined as the main driver of globalisation (Rennen and Martens, 2003; Scholte, 2002; Stiglitz, 2007). This is especially reflected in the global trade liberalization advocated by the World Trade Organization, and the power of the economic development programmes of the World Bank and the OECD. These organisations shape and constitute financial, political and even cultural structures and interrelations between most of the world’s countries through increasing the exchange of goods, services and people. The current global economy is largely based on capitalist ideals to foster socio-economic development through growth in production and consumption. Capitalism is often blamed for the global ecological crisis and climate change (Klein, 2014; Meadows et al., 1972; Stiglitz, 2002). The concept of sustainable development arrived fully in the global policy arena in 1987 with the publication of the Brundtland report (Brundtland-Commission, 1987). It was the beginning of the acknowledgment of the necessity of sustainable forms of economic development which later evolved into notions of Green Growth, or a Green Economy (UNEP, 2011). In the global governance arena, there is ongoing debate on the sustainability of the current economic system (Pauli, 2010; Piketty, 2014). However, there seems to be a fundamental lack of acknowledging a broader perspective diversity on the current global character of the economy within this debate. In policy circles, all eyes remain focused on continuing economic growth as the solution to crises and as the only way to reduce inequality (Martens, 2013). This has also been recently re-affirmed by the eighth SDG, which calls for sustained economic growth in all countries. This globally persistent assumption of the intrinsic connection between economic development and growth makes the economy a suitable candidate for assessing the sustainability of globalisation. The chosen reports for analysis of this theme are: *The History and Future of the World Trade Organization*, by the WTO (VanGrasstek, 2013), which represents a future vision for the WTO; *Strengthening Global Trade Investment System 21st Century* by the World Economic Forum (Meléndez-Ortiz and Samans, 2016), which provides a future vision on trade and investment; the *OECD Environmental Outlook to 2050: the Consequences of Inaction* (OECD, 2012); and *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* by UNEP (2011).

#### 3.1.2. Theme climate change

Climate change provides an excellent example of a complex global sustainability problem which acts across the three pillars of sustainable development and across all scales both in terms of causes and consequences. It is useful here to clarify how the case of climate change is considered in this research since it is clearly

**Table 2**  
Themes and document families.

Theme	Family
Economy	Family 1: Economy (WEF 2016; WTO 2013) Family 2: Green Economy (UNEP, 2011; OECD, 2012)
Climate Change	Family 3: Climate Change (COP21, 2015; IPCC, 2014) Family 4: Globalisation & Climate Change (Global Commission on the Economy and Climate; WB, 2010)
Well-being	Family 5: Human Well-being & Health (WHO, 2007; ILO, 2015; CBD/WHO/ UNEP, 2011)

closely related to globalisation processes and could be considered as a consequence of globalisation (e.g. due to the global use of fossil fuels); a form of globalisation in itself (e.g. ecological globalisation); or even a driver of globalisation (e.g. through the movement of climate refugees) (Borghesi and Vercelli, 2003; Gallagher, 2009; Rennen and Martens, 2003). Here climate change is conceptualised as a wider sustainability issue with social and economic aspects as well as environmental ones, which can be evaluated from all possible perspectives of CT. Therefore it lends itself as an ideal case for testing the social robustness criterion of sustainable globalisation. The significant recent reports chosen are: *Climate Change 2014: Synthesis Report* by the IPCC (2014), which is a report on the progress of climate change based on latest scientific insights; the *COP 21 Paris Agreement* by the UNFCCC (2015); *Better Growth, Better Climate: The New Climate Economy Report* by the World Resources Institute (Global Commission on the Economy and Climate, 2014) and the *World Development Report on Development and Climate Change* by the World Bank (2010).

### 3.1.3. Theme well-being

Human well-being and health are central notions when discussing the effects of globalisation. They are intensely intertwined with the two previous themes. Both health and broader well-being are strongly connected to micro and macro-economic patterns (Pickett and Wilkinson, 2015), global environmental change such as climate change (Huynen, 2008; Huynen et al., 2013) and biodiversity (Beumer et al., 2008; IUCN, 2009; Martens and Beumer, 2015). Health is defined not as the absence of illness in individuals, but placed in its broader global context where it becomes constituted by the interplay of economic, social and environmental factors (Huynen, 2008; Labonte, 2009; Martens et al., 2010). Therefore, when the broader term well-being is used, this paper refers to inclusive health which takes into account social and environmental determinants. The WHO (2007) report *Towards Health-Equitable Globalisation: Rights, Regulation and Redistribution* explicitly discusses the health topic. Further, a report is chosen with a theme directly related to the health and (economic, social, mental and physical) well-being of a large portion of the global population: labour conditions. These are discussed by the ILO (2015) in the *World Employment Social Outlook*. Next to this a recent report discussing the foundations of human health and wellbeing is selected. It is an extensive state of knowledge review by the WHO, UNEP and the CBD (2015) called *Connecting Global Priorities: Biodiversity and Health*.

The three broad themes form the basis for a categorization of the selected reports into five subcategories which are referred to as 'document families'. Family 1 has a broad economic focus, whereas family 2 concerns the idea of a green economy. Family 3 is concerned with climate change and family 4 connects climate change to broader globalisation processes. Family 5 relates to human well-being, including labour conditions and an environmental perspective on well-being and health (Table 2).

### 3.2. Coding

The content analysis of the selected documents was performed with *Atlas.ti 7*, a software programme for text and content analysis. Six equally long search strings based on key words representing general characteristics of the CT perspectives were used to code the texts. The words in the search strings (Table 3) were chosen based on extensive literature research conducted in earlier studies and the perspectives map (Table 1) (Beumer, 2014; De Kraker et al., 2014; Offermans and Cövers, 2012). Applying the search strings to the text, the perspectives are counted by how often respective words show up in the documents. Based on this percentages of

perspective occurrence are calculated within the set of texts as a whole, within each of the five text families, and within each individual report. The assumption is that the occurrence of the key words indicates how prevalent the respective cultural perspective is in the discourse. For globalisation to be socially robust, this paper would expect or rather hope for a varied or even balanced representation of perspectives with no single perspective being either particularly dominant or marginalized.

Content analysis by means of a software programme implies that the context of the words has not been taken into detailed account. This could be a particular problem if a perspective or discourse is being criticised or discussed from a 'negative' point of view. For example, an egalitarian author criticizing market-based (individualist) approaches to the protection of nature would necessarily describe these market-based approaches using many of the same words as an individualist would. To check the robustness (not social robustness) of our results, three random pages per document have been manually checked and coded in order to take the context of the words into account. Removing coded segments which were completely unfitting did not significantly change the percentage results of the analysis. According to our robustness checks, none of the document results seemed to be fundamentally flawed. Another limitation to this assessment is that the documents differ in size. Therefore, in the total count of the perspectives for all documents, large documents contributed most to the perspectives. This limitation is addressed by reporting and discussing results on the Family level and on the Individual document level as well.

### 3.3. Calculations

As this paper assumes a certain balance of perspectives to contribute to the social robustness of globalisation, balance benchmarks are introduced. In a perfectly balanced world, each cultural perspective would make up 16.7% of the total count. Being less strict, this paper considers a discourse to be balanced if the perspectives are between 8 and 25%. Hence, a perspective is considered to be dominant, when it scores more than 25% and marginalized if it scores below 8% (which is  $16.7 \pm [16.7 * 0.5]$ ). Then, the "degree of balance" can be determined (counting how many perspectives are within the range, this is between 0 and 6).

Further, this paper employs a Shannon Entropy measure (Lin, 1991). On a data set of  $n$  instances, with  $k$  perspectives of size  $p$ , Shannon Entropy is calculated as

$$H = - \sum_{i=1}^k \frac{p_i}{n} \ln \frac{p_i}{n}$$

which is equal to zero if there is one single perspective (unbalanced) and  $\ln(k)$  when all the perspectives are equally balanced. Dividing by  $\ln(k)$ , yields a measure of balance

$$Balance = \frac{H}{\ln k} = \frac{- \sum_{i=1}^k \frac{p_i}{n} \ln \frac{p_i}{n}}{\ln k}$$

which is zero for an unbalanced data set and one for a perfectly balanced data set. Based on those scores this paper further calculates normalized (or relative) balance scores

$$relative\ Balance = 100 \left( 1 - \frac{B_{max} - B_i}{B_{max} - B_{min}} \right)$$

with  $B$  being the maximum and minimum Balance score, as found in the individual reports. The relative balance is then a value between 0 for the least balanced and 100 for the most balanced

**Table 3**  
Word strings for the six CT perspectives.

Hierarchist	Egalitarian	Individualist	Fatalist	Autonomous	Dynamnic Int
Regul	Particip	Challeng	Survive	Beauty	Transit
Control	Equal	Chance	Cope	Love	Tip
Manag	Equit	Opportun	Uncertain	Fragile	Transform
Know	Fair	Progress	Deal	Touch	Dynamic
Ration	Emancip	Consum	Accept	Conscious	Change
Stable	Precaution	Market	Unpredictable	Guide	Flow
Monitor	Protect	Technol	Adapt	Ecol	Complex
Safe/Save	Revolut	Innova	Grasp	Learn	Improvise
Law	Protest	Capital	Wonder	Empath	Evolut
Polic	Public	Econ	Bother	Ethic	Evolve
Improve	Empower	Win	Faith	Harmon	System
State	Help	Achiev	Trust	Earth	Anticipate
Govern	Social	Privat	Adjust	Give/Giving	Equilibrium
Limit	Share/Shar	Value	Fail	Provid	Planet
Boundary	People	Finan	Fall	Mind	Context
Secur	Subsid	Trade	Loss	Heart	Integrat
Predict	Collaborat	Invest	Lack	Soul	Scenario
Legal	Green	Free	Releas	Wholeness	Open
Order	Well-being	Growth	Crisis	Enough	Co-existence
Mainstream	Serv	Goods	Fun	Suffic	Divers
Risk	Nature	Resource	Fear	Good	Cooperat
Legislation	Friend	Partner	Playball	Holistic	Time
Nation	Group	Speed	Coincidence	Creat	Horizon
Marker	Solidari	Fast	Surprise	Less	Perception
Strateg	Common	Potential	Fate	Footprint	Perspective
Norm	Unite/Union	Commerc	Destin	Simple	Integrit
Object	Subject	Extract	Depend	Peace	Pattern
Steer	Support	Lead	Luck	Sacred	Emerge
Standard	Alternative	Option	Impuls	Religion	Synthesis
Comply	Resist	Fight	Instinct	Heal	Links
Rule	Help	Use/Util	Collaps	Life/Live	Process
End	Minority	Benefit	Enjoy	Retreat	Actor
Measure	Weak	Business	Force	Indigenous	Future
Past	Future	Now	Never	Eternal	Multi
Strict	Vulnerable	Want	Chaos	Wonderful	Various
Logic	Kind	Smart	Happy	Bright	Non-linear
Roadmap	Effective	Efficient	Conflict	Spirit	Pathway
Discipline	Need	Build	Pray	Meditate	Explor
Regime	Together	Sell	Destin	Inspir	Reflect/Reflex
Behav	Aware	Act	React	Feel	Think

**Table 4**  
Total counts of key words and balance of perspectives.

Report/ Family	Aut	Dyn	Ega	Fat	Hier	Ind	Balanc	Rank
WTO	751	1982	2265	622	1972	4193	60(90)	5
WEF	801	4452	3016	596	3828	9218	0(83)	11
<i>Economy</i>							25(86)	5
OECD	396	1700	982	302	966	1904	61(90)	4
UNEP	1029	2660	4196	454	1598	4943	35(87)	7
<i>Green Economy</i>							50(89)	3
COP 21	47	145	136	20	59	66	62(90)	3
IPCC	195	1596	508	182	533	614	19(85)	9
<i>Climate Change</i>							29(86)	4
WRI	593	2094	1649	348	1315	4029	26(86)	8
WB	773	2810	2026	546	1499	2856	75(92)	2
<i>Globaliz &amp; Climate</i>							56(90)	2
WHO	149	322	752	140	490	894	48(89)	6
ILO	67	114	458	248	102	651	6(84)	10
CBD/WHO/ UNEP	905	1930	1567	398	1107	1411	100(95)	1
<i>Well-being</i>							99(95)	1
Total	5706	19805	17555	3856	13469	30779	56(90)	

Note: we report the actual counts for the perspectives which are used to calculate the %s in Fig. 6.2. In the Balance column we report the relative Balance first and in brackets the Balance Score. Degree of balance is a score between 1 (min balance) and 6 (max).

report. This implies that these need to be interpreted as relative scores (relative meaning relative to the minimum and maximum score of the reports that are included in the analysis). The reports and families have been ranked accordingly, from least balanced (11 for report and 5 for family) to most balanced (1) (see Table 4).

#### 4. Results

Table 4 presents the counts for the document and total level, as well as the relative balance score (Shannon Balance in brackets) and rank. The overall results of the content analysis show that all of the

**Table 5**  
Correlation tables and distribution of balance.

	<i>Balance</i>	<i>Aut</i>	<i>Dyn</i>	<i>Ega</i>	<i>Fat</i>	<i>Hie</i>	<i>Ind</i>	<i>Marg</i>	<i>Bala</i>	<i>Dom</i>
Balance	1,00									
Aut	0,88	1,00						9	2	0
Dyn	0,45	0,53	1,00					1	5	5
Ega	0,26	0,34	-0,49	1,00				0	7	4
Fat	-0,11	-0,18	-0,69	0,37	1,00			10	1	0
Hie	0,35	0,14	0,57	-0,50	-0,69	1,00		1	10	0
Ind	-0,29	-0,58	-0,53	-0,07	0,08	-0,05	1,00	0	3	8

Note: correlations range between 1 and -1. Values between 0 and  $\pm 0,33$  are considered weak, values greater (or smaller) than  $\pm 0,67$  are considered strong, and moderate in between.

perspectives are included in the policy discourse.

Table 5 reports the correlations between the perspectives and the Balance score, and also how often the perspectives show up marginalized, balanced and dominant (out of the eleven reports). The individualist is the most dominant perspective (eight out of eleven reports), followed by the dynamic integrator, who is dominant in five instances. The egalitarian is dominant in four instances and balanced in the other seven. The hierarchist shows up balanced ten times, and is never dominant, while the autonomous and fatalist perspective are the most marginalized.

When adding up all the counts of the reports and calculating the percentages (see first row in Fig. 2), again the individualist perspective comes out as the single dominant one, with the hierarchist, egalitarian and dynamic integrator being balanced, and the autonomous and fatalist being marginalized. The correlations in Table 5 confirm that the individualist has negative relationships with most of the other perspectives (except the fatalist), meaning that his strength comes at the cost of other perspectives. The dynamic and egalitarian, while at times dominant, have a moderate positive relation with balance. However, the dynamic integrator has negative relations (moderate to strong) with the egalitarian, fatalist and individualist. His presence seems to come at the cost of others. Results are further presented in more detail on two more levels: the family and the document level (Fig. 2).<sup>2</sup>

#### 4.1. Economy

The Economy family ranks as the least balanced of all the families (rank 5). A strong dominance of the individualist perspective is detected, which also comes through in the individual reports. In particular the World Economic Forum (2016), which proclaims to be “committed to improving the state of the world” and being the “International Organization for Public-Private Cooperation” exhibits very high individualist scores. The WEF claims to represent many perspectives and covers many globally relevant topics. Indeed, all the perspectives are represented, but the report comes out as the least balanced of all the documents (rank 11 out of 11). The egalitarian perspective is

relatively marginally represented when compared to expectations and promises made in the introduction of the report. The ‘private’ pillar of the WEF gets more attention than the ‘public’ pillar when it comes to forging public-private partnerships and a ‘sustainable global economy.’ For the WTO (2013) it is in the realm of expectations for the individualist perspective to be dominant. Surprisingly, the individualist perspective in the WTO document is weaker than in the WEF. In both reports the dynamic, egalitarian and hierarchist are rather equally balanced. Hence, the conclusion that the way the global economic system is being framed is not neutral or ‘just the way it is’, but a political choice dominated by one singular cultural perspective. An economy that operates on the primary objective to produce prosperity and economic growth and is under the assumption that the global environment is robust may run into problems, and be un-sustainable, if this assumption turns out not to be true. A more socially robust global economy is called for to tackle the ecological and social challenges of the 21st century.

#### 4.2. Green economy

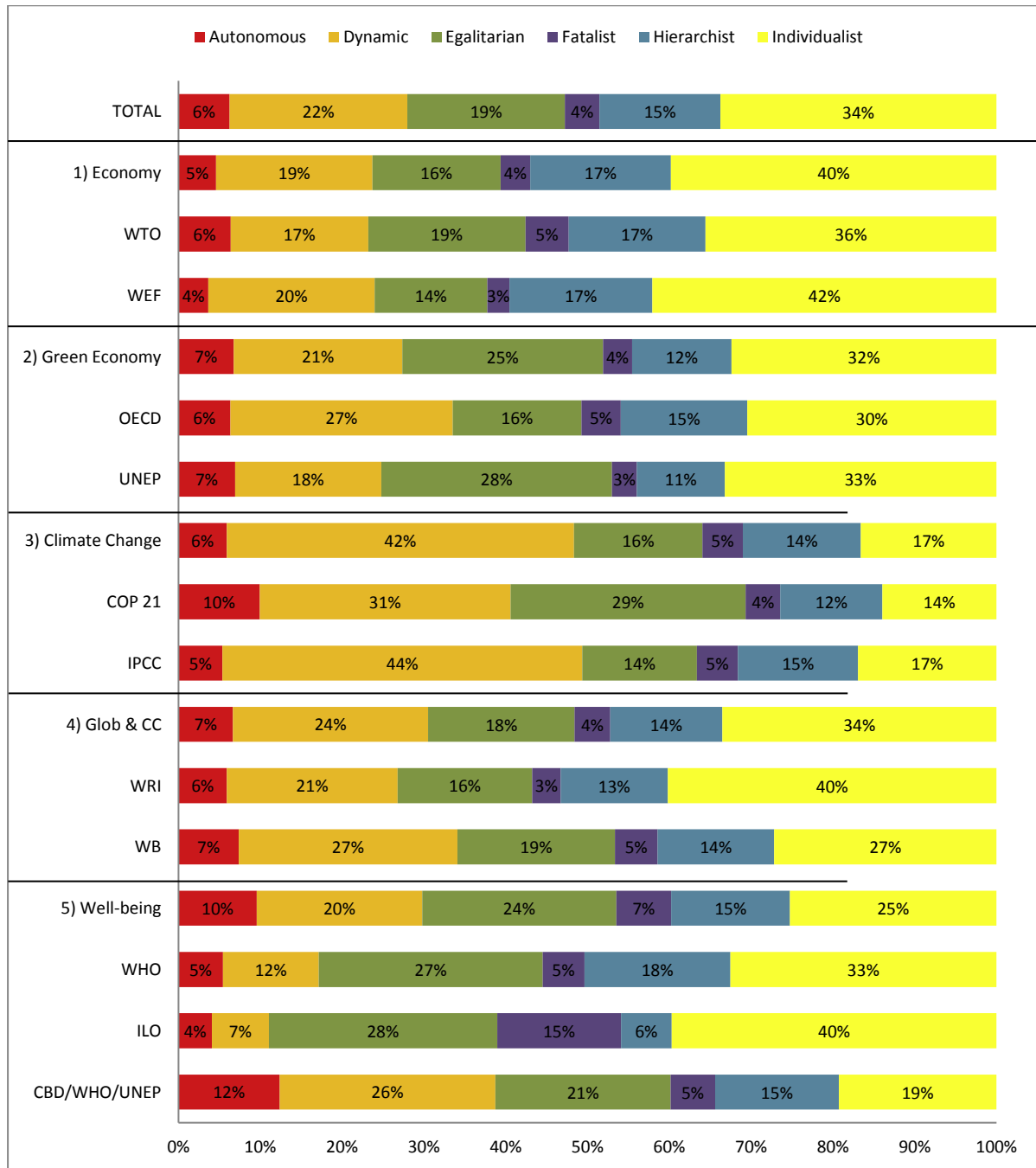
A promising and popular way forward is the green economy approach of Family 2. Here this paper analyzed documents that explicitly integrate economic and environmental objectives. Both documents envision a sustainable future based on ‘green growth’. The individualist is still the dominant perspective, but its dominance is weaker than in the Economy family. The egalitarian perspective is represented more strongly than in the Economy family, while the hierarchist is significantly weaker. In terms of overall balance this family comes out as the median, with rank three. At the document level, the OECD (2012) exhibits a strengthened dynamic integrator as second strongest perspective, with the hierarchist and egalitarian being on the same level. The UNEP (2011) has a slightly stronger individualist discourse, with a strengthened and complementing egalitarian perspective. Especially the hierarchist is considerably weaker in the UNEP report compared to those previously discussed. A greater balance and less individualist dominance than in the Economy family is found in the Green Economy.

#### 4.3. Climate change

The document family dedicated to the issue of Climate Change is the second least balanced (rank 4), but stands out as it is dominated

<sup>2</sup> As stated before, the DI is not part of the original CT typology. Hence, percentages excluding the DI were also calculated. Some nuances of the findings change, however the overall findings and conclusions remain the same. The results are available upon request.





**Fig. 2.** Perspective composition of the six cultural perspectives in the five themes (families 1–5) and reports. Note: percentages of cultural perspectives were calculated based on the counts of key words (from Table 3) as reported in Table 4. For the families and total level they were simply added up.

by the dynamic integrator. The hierarchist, egalitarian and individualist are equally balanced, while the fatalist and autonomous remain marginalized. Nevertheless, this can be seen to be the most socially robust approach, as the (dominant) dynamic integrator aims to integrate all the other perspectives. The COP 21 (UNFCCC, 2015) document is divergent as it exhibits a strong egalitarian and autonomous perspective. Both these strong perspective representations can most likely be attributed to the effort that has been put into involving minority perspectives of indigenous groups. The IPCC report (2014), assembled by scientists, represents the dynamic perspective most strongly.

#### 4.4. Globalisation & climate change

This Family includes documents that particularly discussed climate change in the context of (economic) globalisation. This reframing brings the individualist perspective back to the top and the dynamic integrator in second place. Overall, this family has a similar pattern as the green economy family and comes out as second most balanced. The World Bank (2010) report manages to balance its perspectives quite reasonably with the dynamic perspective and even the egalitarian perspective is strengthened. This can be attributed to the explicit aim of the WB to lift

developing countries from poverty, which is frequently emphasized in the report. The WRI document (*Global Commission on the Economy and Climate, 2014*) has a fairly dominant individualist perspective representation, with a complementary balance between the dynamic, egalitarian and hierarchist perspective.

#### 4.5. Human well-being

This family is the most balanced (rank 1), and hence the most socially robust. On the overall theme level, the balance between individualist, egalitarian, dynamic and hierarchist perspectives is relatively equal compared to the other families. However, again the individualist perspective is slightly dominating. It is particularly noticeable that the autonomous perspective is surprisingly strongly represented. This balance can be largely attributed to the *WHO/UNEP/CBD report (2015)* and may be partly caused by the organizational collaboration or the focus on health and biodiversity. While the WHO report aims to advance equitable health in its title, the individualist discourse unexpectedly prevails over the egalitarian perspective and the other perspectives. In the ILO report (2015) the fatalist perspective is stronger compared to all other documents. This can be attributed to the attention given to the 'crisis' narrative, which is causing a global employment gap, reduced trust in governments, uncertainty in employment conditions and increased labour market turnover. The hierarchist perspective with its focus on regulation is significantly small in the ILO document.

### 5. Discussion

This paper has counted and measured diversity and balance of cultural perspectives in relevant policy discourses on globalisation. For this, it started out with the research question 'how balanced and therefore socially robust is the global policy discourse on globalisation?' This has been assessed over three major themes in globalisation: the economy, climate change and human well-being.

First, this paper found variation and plurality in the composition of the different policy discourses. This is encouraging; perspectives are combined and drawn upon in different ways in different policy areas. And indeed, different policy objectives require different strategies and perspective compositions. However, there are a few arguments to be made that globalisation is not socially robust: overall and most families and reports are dominated by the individualist perspective while the autonomous and fatalist perspectives remain marginalized.

The latter finding is not surprising as the fatalist and autonomous perspectives are considered to be perspectives which – even though important in the debate – do not play an active role in policy processes (e.g. *Offermans, 2012*). The dominance of the individualist is a reflection of the pre-dominant capitalistic and neo-liberal values and worldviews, which are recently put forward in approaches such as green growth, ecological modernization and eco-innovation (*UNEP, 2011*). At the same time, however, the world is becoming more uncertain and politically polarized while ecological pressures continue to increase. Given these global trends, it is questionable whether such an individualist dominance in global policy will be able to shape effective responses to the sustainability challenges of the present and future.

As has been argued before, a balanced and inclusive approach is an important factor for socio-economic resilience, which will also translate into environmental resilience (*Gunderson and Holling, 2002*). The plurality of the perspectives can only be effective in addressing current and future challenges in all three pillars of sustainable development if there is a healthy balance of the different strategies and worldviews. Furthermore, societal support

and acceptance are crucial factors for strengthening globalisation and sustainability developments. Two anecdotal examples of what can go wrong when one perspective – in this case the individualist – is dominant in structuring global processes are the ongoing political developments in the US and the EU. President Donald Trump is a phenomenon which has become possible due to the disillusion and marginalization of a large part of the US populace, especially the middle-class. According to political analysts (*Frank, 2013; Kazin, 2016; Smith, 2016*) the middle-class is suffering the losses of neoliberal globalisation processes and unregulated capitalism. However, many blame their perceived losses on immigrants, seeing them as the cause of their losses, rather than as fellow victims of these processes. The result is a new form of politics with more emphasis on direct democracy (*Floridi, 2016; Jones, 2016; Premat and Kaufmann, 2016*) leading to radicalization, polarization, increased racist tendencies (*Kazin, 2016*) and a lack of a positive integrative long-term future vision.

The ongoing Brexit is also arguably the result of an increasing fatalistic reaction to perceived risks of current globalisation processes, which in the eyes of many European citizens means open borders and immigration (*Lazaridis et al., 2016*). The European Union seems to be more focused on protecting the interests of economic elites (and immigrants) than taking seriously the growing concerns of the citizens of the member-states (e.g. decreased social security and social services; increased job-insecurity due to outsourcing of labour to low and middle income countries; increased socio-economic inequality; the rise of the 'precarariat'). These concerns can all be attributed to the global dominance of the individualist perspective: the neoliberal and runaway-capitalist course in which current globalisation processes are structured (*Piketty, 2014*), which curiously enough started in the 1980's in Britain and the US with respectively Thatcher and Reagan. The reactions to the experienced losses and perceived risks due to this 'globalized' neoliberalism seem more prone to populist political messages, leading to risky and opportunistic political behaviours on all scale levels (*Lazaridis et al., 2016*).

Based on this analysis the key problem this paper identified is that the balance of perspectives in the global policy discourse (and therefore in the globalisation trends and process) does not match the balance of perspectives in society as a whole. The outcomes of non-inclusive globalisation fail to meet the expectations of a world with more sustainability and well-being. An 'expectations gap' between perceived and desired outcomes leads to a decrease in perceived quality of life which undermines the support of the policy discourse (this can be understood as a breakdown of the cycle in *Fig. 1*). These disillusion could have led to a more fatalist interpretation of the functioning of democracy based on a plurality of values and assumptions, with Trump and Brexit as a result.

What could be the consequences for globalisation and sustainability of this global course? Clearly both of the trends described in the previous paragraph, and other similar trends, lead to fragmentation and disintegration, rather than greater discussion and mutual understanding, which are crucial conditions for peace, sustainability and prosperity. Regression into nationalistic tendencies and turning away from the cosmopolitan ideals such as the 'global village' can be expected to bring about a lot of turmoil in the global social, political and economic system. These additional risks also threaten socio-cultural, political and technological processes that would promote environmental sustainability. This can already be seen in the fatalistic denials of climate change and the rise of a 'post-truth' trend that academics and scientists are increasingly confronted with (*Higgins, 2016; McCartney, 2016*). What would be needed to address current economic, political, social and ecological challenges is rather the opposite: strong democratic but visionary leadership, cooperation based on inclusive deliberation in an open

public sphere (Edwards, 214). As a first step, this paper argues that it is important to acknowledge the role that the globally dominant individualist perspective still plays in contributing to the emergence of this new precarious socio-political era.

## 6. A way forward?

This paper put forward a solid method to decompose the underlying cultural values and assumptions of current global policy discourses. In addition to counting the perspective percentages, a balance measure to indicate the social robustness of the current discourse has been calculated.

A question is how these quantifications can help policymakers to make globalisation more inclusive, accepted and therefore socially robust. The quantification of perspectives reveals misbalances and potential gaps in the discourse and worldviews that would need extra attention and inclusion. In a way this would enhance the self-awareness of a policy discourse as a first step to making policy more inclusive. Furthermore, it could reveal which marginalized perspectives may (unexpectedly!?) rise up to “revolt” (think of the fatalist reactions in the UK and US). This basic assessment could be a solid starting point to determine whether and how one could and should make policy processes more inclusive. By realizing which perspectives are marginalized, or at the risk of marginalization, one could take deliberate actions to include respective stakeholders (e.g. from civil society) more in the policy-making processes, and thereby design more robust strategies.

A deeper understanding of any policy discourse also reveals the underlying discussion on what ‘the good society’ (e.g. an intrinsically and instrumentally socially robust and sustainable society) is or means in a given context. Therefore, further research could apply this method to further policy themes, but also on different (policy) levels (e.g. national, sub-national, etc.). However, a potential weakness of discourse analysis is that it normally only assesses articulated interests. Weakly organised or unorganised voices may not be included in the reports investigated. This may lead to assume that the results (weak balance, strong individualist focus) may be even stronger in reality. Furthermore, it would be interesting to assess whether more balanced policy discourses, as measured here, actually lead to more accepted and inclusive outcomes, which is one of our basic assumptions. Additionally, the perspective composition could be measured for national policy discourses and then be linked to measures of globalisation and connectedness, to assess the relationship between cultural values on a nation-state level and actual globalisation processes. Metagovernance, framed by Meuleman (2010) as the “process of designing and managing situationally optimal combinations of (...) competing, and to an extent mutually undermining, governance styles (Meuleman, 2010, p.49)” could be considered as a way forward to design and manage situationally appropriate combinations of governance styles based on conscious inclusion of perspective diversity.

It will not be easy for globalisation and global policy processes to become either socially robust or sustainable. This paper highlights the importance of rethinking or rather re-imagining the sustainability of globalisation. Old perspectives must be questioned, and new ones need to be developed. Based on this paper and previous work of the authors (Beumer and Martens, 2010), a new perspective of what could be a socially robust form of globalisation is put forward. This would be a world where new partnerships are made between civil society and business interests (egalitarian-individualist). However, there are other features: a strong emphasis on learning about socio-ecological systems through adaptive management is based on balancing people, planet and prosperity on local and regional scale levels. Herewith an egalitarian sense of community and participation is combined with hierarchist

management approaches and protocols. Nature in these scenarios is seen as vulnerable (egalitarian), but there is also humility with regards to the unexpectedness of some of her processes. This does not result into fatalism and fear, but more into integrating the egalitarian and autonomous sense of respect and awe. People are aware of the importance of biodiversity and ecosystems for the services and functions they provide for human well-being and economic development (individualist), but nature is also valued intrinsically (egalitarian/autonomous) and as a part of local and cultural identity (egalitarian). The storyline can be called ‘glocalization’ as they are integrating local and cultural values into the ongoing progressive dynamics of globalisation (dynamic integrator). Learning about socio-ecological relations is facilitated by modern communication technology, which combines egalitarian values with individualist drive for innovation and progress. There are large investments in human capital and knowledge in order to accommodate this.

This could become the new reality if the world manages to curb the emerging (fatalist) response against current globalisation. Such a pathway may contribute to increased and equitable well-being and health on a planetary scale by reducing GHG emissions and focusing on ecological growth rather than economic growth. In this way, political and economic glocalization could help increase the beneficial effects of an ecologically healthier planet.

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## References

- Anton, D.J., 1995. Diversity, Globalization, and the Ways of Nature. International Development Research Centre, Ottawa.
- Asselt, M.V., Rotmans, J., Elzen, M.D., Hilderink, H., 1995. Uncertainty in Integrated Assessment Modeling: a Cultural Perspective Approach. Bilthoven: National Institute of Public Health and the Environment (RIVM).
- Bacchi, C., 2009. Analysing Policy: what Is the Problem Represented to Be? Pearson, Australia.
- Banerjee, S.B., 2003. Who sustains whose Development? Sustainable development and the reinvention of nature. *Organ. Stud.* 24 (1), 143–180.
- Beumer, C., 2014. Stepping Stone Cities. Exploring Urban Greening and Gardening as a Viable Contribution to Global Biodiversity Conservation (PhD). Maastricht University, Maastricht.
- Beumer, C., Martens, P., 2010. Noah's Ark or World Wild Web? Cultural Perspectives in Global Scenario Studies and Their Function for Biodiversity Conservation in a Changing World. *Sustainability* (Special Issue Futures).
- Beumer, C., Martens, P., 2013. IUCN and perspectives on biodiversity conservation in a changing world. *Biodivers. Conserv.* doi: 10.1007/s10531-013-0573-6.
- Beumer, C., Huynen, M., Martens, P., 2008. Finding paradise in a complex web: the inter-relation of biodiversity, ecosystems and human health. In: Westra, L. (Ed.), *Reconciling Human Existence with Ecological Integrity*. Earthscan, London.
- Blankendaal, T., Schuur, P., Voordijk, H., 2014. Reducing the environmental impact of concrete and asphalt: a scenario approach. *J. Clean. Prod.* 66, 27–36.
- Borghesi, S., Vercelli, A., 2003. Sustainable globalisation. *Ecol. Econ.* 44 (1), 77–89. [https://doi.org/10.1016/S0921-8009\(02\)00222-7](https://doi.org/10.1016/S0921-8009(02)00222-7).
- Bossel, H., 1999. Indicators for Sustainable Development: Theory, Method, Applications. Retrieved from: <http://www.ulb.ac.be/ceese/STAFF/Tom/bossel.pdf>.
- Brooks, J., 2013. Avoiding the limits to growth: gross national happiness in Bhutan as a model for sustainable development. *Sustainability* 5 (9), 3640.
- Brundtland-Commission, 1987. Our Common Future.
- Castro, C.J., 2004. Sustainable development: mainstream and critical perspectives. *Organ. Environ.* 17 (195), 195–225.

- COP Paris Agreement, 2015. Transforming Our World: the 2030 Agenda for Sustainable Development (2015).
- De Kraker, J., Kuijs, S., Cörvers, R., Offermans, A., 2014. Internet public opinion on climate change: a world views analysis of online reader comments. *Int. J. Clim. Change Strategies Manag.* 6 (1), 19–33.
- Dodds, S., 1997. Towards a 'science of sustainability': improving the way ecological economics understands human well-being. *Ecol. Econ.* 23, 95–111. Retrieved from: [http://ac.els-cdn.com/S0921800997000475/1-s2.0-S0921800997000475-main.pdf?\\_tid=58b79a9e-708c-11e5-9868-00000aab0f6b&acdnat=1444618559\\_4460983cf9626ecc97b143699e23614f](http://ac.els-cdn.com/S0921800997000475/1-s2.0-S0921800997000475-main.pdf?_tid=58b79a9e-708c-11e5-9868-00000aab0f6b&acdnat=1444618559_4460983cf9626ecc97b143699e23614f).
- Dreher, A., Gaston, N., Martens, P., 2008. Measuring Globalisation: Gauging its Consequences. Springer, New York.
- Erez, M., Gati, E., 2004. A dynamic, multi-level model of culture: from the micro level of the individual to the macro level of a global culture. *Appl. Psychol. Int. Rev.* 53 (4), 583–598.
- Figge, L., 2017. Connectedness in Times of Ecological Overshoot: a Quantitative Analysis of the Sustainability of Globalization (PhD in Sustainability Science and Policy Doctoral thesis). Maastricht University, Maastricht.
- Figge, L., Oebels, K., Offermans, A., 2017. The effects of globalization on Ecological Footprints: an empirical analysis. *Environ. Dev. Sustain.* 19, 863–876. <https://doi.org/10.1007/s10668-016-9769-8>.
- Floridi, L., 2016. Technology and democracy: three lessons from Brexit. *Philosophy Technol.* 29 (3), 189–193.
- Frank, R., 2013. Falling behind: How Rising Inequality Harms the Middle Class, vol. 4. Univ of California Press.
- Gallagher, K.P., 2009. Economic globalization and the environment. *Annu. Rev. Environ. Resour.* 34, 279–304.
- Giddings, B., Hopwood, B., O'Brien, G., 2002. Environment, economy and society: fitting them together into sustainable development. *Sustain. Dev.* 10 (4), 187–196.
- Global Commission on the Economy and Climate, 2014. Better Growth Better Climate: the New Climate Economy Report. World Resources Institute, Washington D.C.
- Gunderson, L.H., Holling, C.S., 2002. Panarchy. Understanding Transformations in Human and Natural Systems. Island Press, Washington.
- Higgins, K., 2016. Post-truth: a guide for the perplexed. *Nature* 540 (7631), 9, 9.
- Hirst, P., 1997. From Statism to Pluralism: Democracy, Civil Society and Global DPolitics. Routledge, London/New York.
- Huynen, M., 2008. Future Health in a Globalising World. Maastricht University Press, Maastricht.
- Huynen, M., Martens, P., Akin, S., 2013. Climate change: an amplifier of existing health risks in developing countries. *Environ. Dev. Sustain.* 15 (6), 1425–1442.
- ILO, 2015. World Employment Social Outlook. International Labour Organization, Geneva.
- IPCC, 2014. In: Core Writing Team, Pachauri, R.K., Meyer, L.A. (Eds.), Climate Change 2014 Synthesis Report. IPCC, Geneva.
- IUCN, 2009. Life Support. Human Health and the Environment. Gland, Switzerland.
- Jones, E., 2016. Brexit's lessons for democracy. *Survival* 58 (3), 41–49.
- Kahan, D.M., Braman, D., Slovic, P., Gastil, J., Cohen, G.L., 2007. The second national risk and culture study: making sense of-and making progress in-the american culture war of fact. *GWU Leg. Stud. Res. Pap.* 370, 08–26.
- Kazin, M., 2016. Trump and american populism: old whine, new bottles. *Foreign Aff.* 95, 17.
- Keesing, R.M., 1974. Theories of culture. *Annu. Rev. Anthropol.* 3, 73–97.
- Klein, N., 2014. This Changes Everything: Capitalism Vs. The Climate. Simon and Schuster.
- Labonte, R., 2009. Introduction: globalization challenges to people's health. In: Labonte, R., Packer, S.T.C., Runnels, V. (Eds.), Globalization and Health: Pathways, Evidence and Policy. Routledge, New York.
- Lazaridis, G., Campani, G., Benveniste, A., 2016. The Rise of the Far Right in Europe: Populist Shifts And 'Othering'. Springer.
- Lin, J., 1991. Divergence measures based on the Shannon entropy. *IEEE Trans. Inf. Theory* 37 (1), 145–151.
- Martens, P., 2013. Grey, Green or Blue Economy? It's Sustainability, Stupid!. Retrieved from: [pimmartens.info/grey-green-or-blue-economy-it%E2%80%99s-sustainability-stupid/](http://pimmartens.info/grey-green-or-blue-economy-it%E2%80%99s-sustainability-stupid/).
- Martens, P., Beumer, C., 2015. Biodiversity keeps people healthy. In: Butler, C.D., Dixon, J., Capon, A.G. (Eds.), Health of People, Places and Planet. Reflections Based on Tony McMichael's Four Decades of Contribution to Epidemiological Understanding. ANU Press, pp. 477–491.
- Martens, P., Raza, M., 2010. Is globalisation sustainable? *Sustainability* 2 (1), 280–293.
- Martens, P., Rotmans, J., 2002. Transitions in a Globalising World. Swets & Zeitlinger Publishers, Lisse.
- Martens, P., Akin, S., Huynen, M., Raza, M., 2010. Is globalization healthy: a statistical indicator analysis of the impacts of globalization on health. *Glob. Health* 6 (1), 1–14. <https://doi.org/10.1186/1744-8603-6-16>.
- Martens, P., Caselli, M., De Lombaerde, P., Figge, L., Scholte, J.A., 2015. New directions in globalization indices. *Globalizations* 12 (2), 217–228. <https://doi.org/10.1080/14747731.2014.944336>.
- McCartney, M., 2016. Margaret McCartney: evidence in a post-truth world. *BMJ* 355, i6363.
- Meadows, D.H., Meadows, D.L., Randers, J., Behrens, W.W., 1972. The Limits to Growth: the Club of Rome.
- Melendez-Ortiz, R., Samans, R., 2016. Strengthening Global Trade Investment System 21st Century. World Economic Forum, Geneva, Switzerland.
- Meuleman, L., 2010. The cultural dimension of metagovernance: why governance doctrines may fail. *Public Organ. Rev.* 10 (1), 49–70. <https://doi.org/10.1007/s11115-009-0088-5>.
- Nederveen-Pieterse, J., 2004. Globalization and Culture. Rowman and Littlefield Publishers Inc, Lanham.
- OECD, 2012. OECD Environmental Outlook to 2050. OECD Publishing, Paris.
- Offermans, A.G.E., 2012. The Perspectives Method: towards Socially Robust River Management. Universitaire Pers, Maastricht.
- Offermans, A., Cörvers, R., 2012. Learning from the past; changing perspectives on river management in The Netherlands. *Environ. Sci. Pol.* 15 (1), 13–22.
- Pan, S.-Y., Du, M.A., Huang, I.-T., Liu, I.-H., Chang, E., Chiang, P.-C., 2015. Strategies on implementation of waste-to-energy (WTE) supply chain for circular economy system: a review. *J. Clean. Prod.* 108, 409–421.
- Pauli, G., 2010. The Blue Economy. 10 Years, 100 Innovations, 100 Million Jobs. Report to the Club of Rome. Paradigm Publications, Taos, New Mexico, USA.
- Pickett, K.E., Wilkinson, R.G., 2015. Income inequality and health: a causal review. *Soc. Sci. Med.* 128, 316–326.
- Piketty, T., 2014. Capital in the 21st Century. Cambridge Massachusetts. Harvard University Press.
- Premat, C., Kaufmann, B., 2016. Can We Have a New Democratic Enlightenment?: Rousseau's Ideas in Contemporary Societies and Prospects of Modern Direct Democracy. Paper presented at the Vitterhetsakademien (8–9 september 2016). Stockholm University.
- Rennen, W., Martens, P., 2003. The globalisation timeline. *Integr. Assess.* 4 (3), 137–144.
- Robinson, J., 2004. Squaring the circle? Some thoughts on the idea of sustainable development. *Ecol. Econ.* 48 (4), 369–384.
- Robinson, J., 2011. Ethical Pluralism, pragmatism, and sustainability in conservation practice. *Biol. Conserv.* 144, 958–965.
- Rudolph, A., Figge, L., 2017. Determinants of Ecological Footprints: what is the role of globalization? *Ecol. Indic.* 81, 348–361. <https://doi.org/10.1016/j.ecolind.2017.04.060>.
- Sarewitz, D., 2004. How science makes environmental controversies worse. *Environ. Sci. Pol.* 7, 385–403. <https://doi.org/10.1016/j.envsci.2004.06.001>. Retrieved from: [http://ac.els-cdn.com/S1462901104000620/1-s2.0-S1462901104000620-main.pdf?\\_tid=c305ec0c-7087-11e5-84da-00000aab0f01&acdnat=1444616590\\_51d4051540f6ad1e7435dd2e7cd644b](http://ac.els-cdn.com/S1462901104000620/1-s2.0-S1462901104000620-main.pdf?_tid=c305ec0c-7087-11e5-84da-00000aab0f01&acdnat=1444616590_51d4051540f6ad1e7435dd2e7cd644b).
- Scholte, J.A., 2002. Globalization: a Critical Introduction. Palgrave, New York.
- Scholte, J.A., 2005. Globalization: a Critical Introduction, 2 ed. Palgrave Macmillan, New York.
- Schuerkens, U., 2003. The sociological and anthropological study of globalization and localization. *Curr. Sociol.* 51 (3/4), 209–222.
- Sen, A., 1999. Commodities and Capabilities. Oxford University Press, New Delhi.
- Smith, M., 2016. Trump, Brexit, and the West's "mad as hell" Moment USApp—American Politics Policy Blog.
- Stiglitz, J., 2002. Globalization and its Discontents. W.W. Norton, New York.
- Stiglitz, J., 2007. Making Globalization Work. W.W. Norton, New York.
- Thompson, M., Ellis, R., Wildavsky, A., 1990. Cultural Theory. Westview Press, Boulder.
- Tošić, N., Marinković, S., Dasić, T., Stanić, M., 2015. Multicriteria optimization of natural and recycled aggregate concrete for structural use. *J. Clean. Prod.* 87, 766–776.
- Tukker, A., Butter, M., 2007. Governance of sustainable transitions: about the 4(0) ways to change the world. *J. Clean. Prod.* 15 (1), 94–103.
- UNEP, 2011. Towards a Green Economy. Pathways to Sustainable Development and Poverty Eradication. UNEP, Nairobi, Kenya.
- UNEP, CBD, WHO, 2015. Connecting Global Priorities: Biodiversity and Human Health, a State of Knowledge Review. Kolkata, India.
- UNFCCC, 2015. Paris Agreement. Paris, France.
- United Nations, 2012. The Future We Want. Retrieved from: [http://www.un.org/disabilities/documents/rio20\\_outcome\\_document\\_complete.pdf](http://www.un.org/disabilities/documents/rio20_outcome_document_complete.pdf).
- Valkering, P., Tabara, J.D., Wallman, P., Offermans, A., 2009. Modelling cultural and behavioural change in water management: an integrated, agent based, gaming approach. *Integr. Assess.* 9 (1), 19–46 (Retrieved from).
- Vallance, S., Perkins, H.C., Dixon, J.E., 2011. What is social sustainability? A clarification of concepts. *Geoforum* 42, 342–348. <https://doi.org/10.1016/j.geoforum.2011.01.002>. Retrieved from: [http://ac.els-cdn.com/S0016718511000042/1-s2.0-S0016718511000042-main.pdf?\\_tid=45dfae7e-7088-11e5-942a-00000aab0f01&acdnat=1444616809\\_094046ac043b677ad7a3e19bda873311](http://ac.els-cdn.com/S0016718511000042/1-s2.0-S0016718511000042-main.pdf?_tid=45dfae7e-7088-11e5-942a-00000aab0f01&acdnat=1444616809_094046ac043b677ad7a3e19bda873311).
- VanGrasstek, C., 2013. The History and Future of the World Trade Organization. WTO, Geneva, Switzerland. Retrieved from: [https://www.wto.org/english/res\\_e/booksp\\_e/historywto\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/historywto_e.pdf).
- Verweij, M., Douglas, M., Ellis, R., Engel, C., Hendriks, F., Lohmann, S., Thompson, M., 2006. Clumsy solutions for a complex world: the case of climate change. *Public Adm.* 84 (4), 817–843.
- WHO, 2007. Towards Health-equitable Globalisation: Rights, Regulation and Redistribution Geneva. World Health Organisation.
- World Bank, 2010. World Development Report 2010: Development and Climate Change. World Bank, Washington DC.